Attorney's Docket No.:14580-031001

REMARKS

Reconsideration and allowance of the above referenced application are respectfully requested.

A number of changes to the claims are made herewith, and these changes, with all due respect, obviate the currently-presented rejection.

Claims 1-6 and 8 stand rejected under 35 USC 102 as allegedly being anticipated by Kanaya et al. (US Publication 2004/0084701 A1). This contention has been obviated by the amendment of claim 1. As amended, claim 1 defines a vertical ferroelectric capacitor. Kanaya discloses a horizontal capacitor, not a vertical capacitor. Because Kanaya's capacitor is horizontal, the ferroelectric material is deposited onto a conducting layer (i.e., an electrode layer) rather than onto an insulating layer. In Kanaya, the layer above the ferroelectric layer is also conducting, not insulating. In Kanaya, the material in contact with the side surfaces of the ferroelectric layer is insulating, not conducting. It is arguable whether Kanaya discloses etching to form ferroelectric elements, since the etching steps in Kanaya produce an entire capacitor structure (see Figures 3 and 4), rather than ferroelectric only elements, because the capacitor structure in Kanaya is horizontal rather than vertical.

Moreover, there is no disclosure in Kanaya that the material at the sides of the ferroelectric layer promotes crystallization more than the material above and below the ferroelectric layer so that crystallization proceeds horizontally.

Amended claim 1 is also non-obvious over Kanaya. As can be seen above, claim 1 differs from Kanaya in many ways.

Therefore, for the skilled person to obtain the claimed invention from the Kanaya disclosure would require many steps. Secondly, because the capacitor in Kanaya is horizontal, not vertical, it would require a great modification of the Kanaya method to reach the claimed method because the fields of horizontal and vertical capacitors are very different and the method steps to form the two types of capacitors are very different. Thus, there would be no motivation for the skilled person to modify the Kanaya method in the direction of the claimed method. Thirdly, the essence of the invention is ferroelectric layer crystallization but Kanaya is not at all concerned with ferroelectric layer crystallization and, instead, is concerned with hydrogen diffusion and the provision of a hydrogen barrier layer to stop such diffusion. Thus, there is no suggestion at all in Kanaya that it would be advantageous to provide a material at the sides of the ferroelectric layer which promotes crystallization more than the material above and below the ferroelectric layer, so that crystallization proceeds horizontally. Therefore, the skilled person would not modify the Kanaya arrangement in this way.

The objection to the specification has been obviated herein. The objection to page 6, line 20 has been obviated by amending this to correctly refer to Figure 1 instead of Figure 3.

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Applicant asks that all claims be allowed. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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